AEROSPACE
MATERIAL SPECIFICATIONS

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AMS 4602

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Revised

COPPER BARS AND RODS
Oxygen-Free, Hard Temper

1. ACKNOWLEDGMENT: A vendor shall mention this specification number in all quotations and when acknowledging purchase orders.

2. APPLICATION: Primarily for parts requiring high electrical or thermal conductivity.

3. COMPOSITION: Material shall be oxygen-free copper and shall contain not less than 99.90% copper, silver being counted as copper.

4. CONDITION: Cold drawn or cold rolled, hard temper.

5. TECHNICAL REQUIREMENTS:

5.1 Tensile Properties:

Nominal Diameter or Distance Between Parallel Sides Inches	Tensile Strength psi, min	Elongation % in 4D or 4T (1) min
Rounds, Hexagons, Octagons		
Up to 0.250, incl	50,000	--
Over 0.250 to 0.375, incl	45,000	10
Over 0.375 to 1.000, incl	40,000	12
Over 1.000 to 2.000, incl	35,000	15
Over 2.000 to 3.000, incl	33,000	15
Squares, Rectangles		
Over 0.188 to 0.375, incl	42,000	12
Over 0.375 to 0.500, incl	40,000	12
Over 0.500 to 2.000, incl	33,000	15
Over 2.000 to 4.000, incl	32,000	15

(1) Elongation shall be measured over a gage length of 4D, where D is the diameter of a machined test specimen or the full diameter of a round bar; elongation shall be measured over a gage length of 4T where T is the distance between parallel sides of a hexagon, octagon, or square or the thickness of a rectangle when such sections are tested in full section. In no case shall a gage length less than 1 in. be used.

5.2 Bending: Material shall be capable of withstanding, without cracking, bending at room temperature through an angle of 120 deg around a diameter equal to twice the thickness of the specimen with axis of bend transverse to the direction of rolling or drawing. Specimens shall be the full section of the bar or rod or shall be rectangular specimens 1 in. wide x 1/2 in. thick; edges of rectangular specimens may be rounded to a radius equal to 1/4 of the thickness.